

NOTES ON THE DISTRIBUTION OF THE GENUS *PLUMARIUS*
(HYMENOPTERA, PLUMARIIDAE)¹

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THE CORNELL UNIVERSITY ENTOMOLOGICAL EXPEDITION TO SOUTH AMERICA,
1919-20.

Since all of the Plumariidae recorded for 1919-20 were collected by this Expedition and nothing has appeared in print about it, I shall record some facts relating to it. The Expedition was authorized by the Trustees of Cornell University and the author of this paper appointed Director; nevertheless, it was a volunteer expedition and the members were not paid by salary or expenses, except that the University obtained free transportation for a large part of the Director's journey. The Expedition started at Brooklyn, Sept. 5, 1919, and ended there thirteen months later. The members of the Expedition were:

The Director, the entire journey.

R. Gordon Harris, from Rio de Janeiro to Peru, thence returned to the United States by reason of illness.

Dr. W. T. M. Forbes, Lima to Belem, thence via British Guiana to the United States.

Jesse H. Williamson, Peru, thence returned to the United States by reason of illness.

One purpose of the Expedition was to obtain data on the genus *Plumarius*; a major purpose was, of course, to collect all possible entomological and some vertebrate material for Cornell University, where it is now to be found, except that a considerable amount sent to spec-

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ialists for determination, is still in the custody of their institutions. Another purpose was to increase good will with South America entomologists and their institutions. To this end, five extensive collections of determined species of insects were prepared and one of them delivered to each of the following institutions: the Museu Paulista, and the National Museums at Rio de Janeiro, Montevideo, Buenos Aires, and Santiago.

PLUMARIIDAE

Plumarius Philippi

1873. *Plumarius*, ♂. Philippi. Ent. Zeitung, Stettin, 34:299, pl. 1, fig. 2.
1909. *Konowiella*, ♂. André, Ernest. Bull. Soc. Ent. de France, p. 107.
1921. *Plumarius*, ♂. Bradley, J. Chester. J. Washington Acad. Sci. 11:214.
1921. *Plumarius*, ♂. Bradley, J. Chester. Act. Soc. Cient. Chile, 30:51-74.
1966. *Plumarius*, ♀. Evans, Howard E. Psyche, 73:229-237, illus.

Dr. Philippi placed *Plumarius* with a query in a family that he termed "Evaniade". At the time of our expedition no one had been able to recognize this wasp.

André described *Konowiella* from specimens he had received from time to time from Mendoza in Argentina, presumably from Dr. Carlos S. Reed. Up to 1919 it also had never been recognized by hymenopterists.

Bradley, 1921b, established *Konowiella* as a synonym of *Plumarius* by examining the type of the latter genus and stated 1921b, "The only justifiable conclusion is to erect for these insects a new family which must take its place as related to Mutillidae and Myrmosidae"; he did not mention the word Plumariidae but of course the name could have been nothing else. He went on to say "It is to be regretted that we do not know the female, but it is undoubtedly apterous".

A few years ago I made an intensive study of all the material of American Plumariidae available to me. Other than size, I was unable to discover any structural characters for the differentiation of species; I did not examine genitalia. Nearly all specimens appeared to agree with the type of *P. niger*. All such specimens, in my view, should be determined as of that species, until someone has described and differentiated another. Evans takes the view that no specific name

should be employed until a thorough-going taxonomic study has been completed.

RECORDS OF OCCURRENCE OF *Plumarius*

East of the Andes the records are arranged from north to south, vice versa on the west.

BRAZIL. MATTO GROSSO, PROV. Corumbá, December 22, 1919, 2 ♂. CU lot 569, sub 140. Collected in kerosene under gas lantern on a fazenda one-half mile south of Corumbá at the edge of a small grove behind a deep pool of spring water, from which a small swampy stream trickled off; a field of cane and fruit trees on one side.

ARGENTINA. In early February, 1920, I noticed a single undetermined male of one of these wasps amongst the unstudied material of the Museo Nacional in Buenos Aires. Mr. Juan Brethes, hymenopterist of the museum, had failed to recognize it, and could tell me nothing at all about its habits or where it might be found, but it had the plumose antennae described by André and probably came from the type-locality of *P. hirticornis*, Mendoza, or elsewhere in the arid regions of western Argentina. Mr. Brethes presented it to me for Cornell University where it is now labelled CU lot 709, sub. 56.

Entre Rios Prov. 1 ♂, gift of C. S. Reed. CU lot 605.

Tucuman Prov. 1 ♂, gift of C. S. Reed. CU lot 605.

La Rioja Prov. 1 ♂, purchased from E. Giacomelli prior to 1919. CU; 1 ♂, gift of C. S. Reed, probably received from Giacomelli, CU lot 605.

MENDOZA PROV., Potrerillos, a station on the Transandean Railway, at the foot of the Andes, elevation 1300 meters. The mountains and valleys here are covered with desert vegetation, three species of creosote bush, thorny leguminosine plants, trees like palo verde and all-thorn, etc. I burned the gasoline lantern over a basin of kerosene two nights, March 17, 18, 1920, in a desert spot on a small bench overlooking a bit of land along a stream. I caught many *Plumarius* (57 the second night) representing at least three and possibly more species. "I would not be surprised if many exist and it may replace *Brachycystis* of our southwest in habit and diversity; but I believe that when the females are found they will be wingless." (Extract from field-notes.) CU lot 569, sub. 212.

NEUQUEN PROV. 1 ♂ larger than the others; probably from Dr. C. S. Reed. CU.

CHILE. SANTIAGO. *Plumarius niger* Philippi, ♂, holotype. "February, 1867, a few miles from Santiago on a small-leaved *Baccharis* [sp.]." I have seen no other record of this nocturnal, large-eyed, testaceous insect being caught in the daytime on flowers and believe that Philippi must have recorded field-notes that belong to some other insect.

In April, 1920, I found a specimen of *Plumarius* sp. in a box of discarded insects in the National Museum in Santiago. I made positive identification of it as Philippi's type of *P. niger* and so informed the curator, Dr. Carlos Silva, to his surprise. He gave it to me to take to Cornell University. The following quotation is an extract from the Expedition's journal of that date: I found a specimen of "*Plumarius*, proving conclusively that that enigmatical genus was, as I had long expected, identical with *Konowiella*".

Valparaiso. One ♂, from Dr. Porter, now in CU.

Antofagasta. 1 ♂, 1885. CU.

Tarapaca Prov. 2 ♂, not collected by C. U. Expedition.

PERU. LIMA PROV. Chosica, a station on the Central Railway, thirty kilometers above Lima, May 25, 1920. 1 ♂, at arc light; Pativilca. 2 ♀. Jan. 15, 1955, 22 miles north of Pativilca, 150 meters elevation. See Evans, 1966.

ECUADOR. This country is mentioned as a locality for a male *Plumarius* sp. by Evans, 1966, p. 229 and 230.

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EVANS, HOWARD E. Discovery of the female *Plumarius* (Hymenoptera, Plumariidae). *Psyche*, 1966, 73:229-237, illus.³

PHILIPPI, R. A. 3. *Plumarius niger*. Ph., eine neue Evaniade? p. 299-300, pl. 1, fig. 2, (*In his*: *Chilenische Insekten*, Ent. Zeitung, Stettin, 1873, 34:296-316, pl. 1, fig. 2).

2.0160 Notes on the distribution of the genus *Plumarius* (Hymenoptera), Plumariidae).

ABSTRACT.—The Cornell University Entomological Expedition to South America, 1919-20 determined the range of the genus *Plumarius* to include Brazil, Argentina, Chile, Peru, and Ecuador.—*J. Chester Bradley, Cornell University, Ithaca, NY 14850.*

Descriptors: Hymenoptera; Plumariidae; *Plumarius niger*; *Konowiella* sp.; Cornell University Entomological Expedition to South America, 1919-20; distribution.

³I am obliged to Miss A. Ruth Breen, for the following correction in this paper: the reference to Bradley 1921b should read Journal of the Washington Academy of Sciences instead of Proceedings.